Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-29 (cancelled)

Claim 30 (previously presented): A method for identifying a compound that modulates signal transduction in a cell, comprising:
contacting a cell that expresses an Activator of G protein Signaling ("AGS") protein with a test compound;
determining the effect of the test compound on the activity of the AGS protein; and
identifying the test compound as a modulator of signal transduction based on the ability of the compound to modulate the activity of the AGS protein in the cell,
wherein the AGS protein comprises an amino acid sequence having at least 97% identity to SEQ ID NO:2 and simulates G protein activity in a receptor-independent manner.

Claim 31 (canceled)

Claim 32 (previously presented): The method of claim 30, wherein the AGS protein is isolated from human cells.

Claim 33 (previously presented): The method of claim 30, wherein the AGS protein comprises amino acids having the sequence of SEQ ID NO: 2.

Claim 34 (original): The method of claim 30, wherein the cell has been engineered to express the AGS protein by introducing into the cell an expression vector encoding the AGS protein.

Claim 35 (currently amended): The method of claim 30, wherein the cell has further been engineered to express a G protein [[a]]α subunit.

Claim 36 (currently amended): The method of claim 30, wherein the cell is a yeast cell that has been engineered to express a mammalian or chimeric G protein [[a]]α subunit and the effect of the test compound on the activity of the AGS protein is determined by monitoring a pheromone response pathway in the yeast cells.

Claim 37 (currently amended): The method of claim 36, wherein the yeast cell has been engineered to express a ~~Gral-Gai2~~Gpa1-Gα i2 chimeric G protein [[a]]α subunit.

Claim 38 (original): The method of claim 36, wherein the pheromone response pathway in the yeast cells is monitored by measuring the activity of a pheromone responsive promoter in the yeast cells.

Claim 39 (original): The method of claim 30, wherein the effect of the test compound on the activity of the AGS protein is determined by monitoring the ability of the test compound to bind to the AGS protein.

Claim 40 (original): The method of claim 30, wherein the effect of the test compound on the activity of the AGS protein is determined by monitoring the ability of the test compound to modulate the interaction of the AGS protein with a target molecule.

Claim 41 (original): The method of claim 40, wherein the target molecule is a G protein.

Claims 42-72 (cancelled)

Claim 73 (currently amended): The method of claim ~~72~~30, wherein the compound is a nucleic acid encoding a polypeptide capable of inhibiting the activity of the AGS protein, and wherein said nucleic acid comprises the sequence provided in SEQ ID NO: 24.

Claim 74 (currently amended): The method of claim ~~72~~30, wherein the compound is a nucleic acid encoding a polypeptide capable of inhibiting the activity of the AGS protein, and wherein said nucleic acid encodes the polypeptide having [[an]]the amino acid sequence provided in SEQ ID NO: 25.

Claim 75 (cancelled):

Claim 76 (currently amended): The method of claim ~~75~~30, wherein the cell further comprises a nucleic acid encoding an inhibitor of the AGS protein, and wherein said nucleic acid comprises nucleotides having the sequence provided in SEQ ID NO: 24.

Claim 77 (currently amended): The method of claim ~~75~~30, wherein the cell further comprises a nucleic acid encoding an inhibitor of the AGS protein, and wherein said nucleic acid encodes the polypeptide having [[an]]the amino acid sequence provided in SEQ ID NO: 25.

Claim 78 (cancelled):